GUIDELINES FOR THE SAFE USE OF ART AND CRAFT MATERIALS

Art and craft supplies that contain toxic substances, including potential human carcinogens, pose a significant danger to the health and safety of schoolchildren. Art instruction is part of the standard school curriculum, and as a result, many children may be exposed to toxic chemicals in the materials used. In recent years, a number of art and craft supplies containing toxic materials have been used in California schools. Asbestos, heavy metals, organic solvents, and other toxic ingredients found in some art and craft materials present risks to the health and safety of individuals using them. These hazards may be greater for a child who is unaware of the dangers and may misuse the products. The following information is presented to assist school personnel in selecting and using safe art and craft products in the classroom.

Special Concerns Regarding Children in Kindergarten and Grades 1-6 (K-6)

There are unique factors associated with the use of art and craft materials by children that may increase health risks and should be considered in evaluating the suitability of products for use in schools. For example, young children cannot be expected to follow instructions for the proper use of art and craft materials; it is only reasonable to expect that the use of these materials by children will result in contact with the skin, eyes, mouth, hair, and clothing. Such contact provides ample opportunity for inhalation, ingestion, or skin absorption of potentially toxic compounds. The possibility of children being adversely affected by exposure is compounded by the fact that children are generally less able to tolerate exposure to hazardous substances than are adults because of the children's smaller size, higher metabolic rates, and immature organ immune systems.

General Precautions for All Students

1. **How Exposure Occurs**

   Exposure to hazardous substances in art supplies occurs by three routes: inhalation, ingestion, and skin contact. Dusts, powders, vapors, gases, and aerosols may be readily inhaled and, therefore, they present a health hazard. Direct damage to the lungs may result from silica or asbestos present in dry earth clays. Organ damage may occur following inhalation of solvent vapors and subsequent absorption into the bloodstream.

   Ingestion of hazardous substances can occur by eating and drinking food that has been contaminated or more directly through oral contact with hands or tools used in art projects. This route of exposure is an important concern since children tend to experiment and put things in their mouths.

   Lastly, skin contact with hazardous materials may result in local or internal effects. Caustic substances or solvents may cause local skin damage. Certain solvents can also pass through the skin into the bloodstream, resulting in damage to other organs.

2. **Possible Illness from Exposure to Hazardous Materials**

Exposure to toxic materials may result in either acute or chronic illness. An acute illness may result from a relatively large exposure over a short period of time. An example would be the intoxication-like symptoms following deliberate or inadvertent ingestion of toxic solvents. A chronic illness may result from relatively small exposure over a long period of time as, for example, degeneration of the nervous system from exposure to lead-containing products. While the symptoms of an acute illness are immediately apparent, this is not necessarily the case for a chronic illness. Chronic illness may arise at a later time due to the concentration of substances in the body (for example asbestos or lead), accumulated damage to the body, or the sensitization to a substance after repeated exposure.

3. **Limiting Exposure**

Considerable protection from exposure to toxic materials can be achieved by promoting good hygiene in the classroom. Safe storage and proper labeling of art and craft supplies, keeping dust to a minimum by damp mopping rather than sweeping, and thorough cleanup after use of art and craft materials will help prevent exposures. Personal hygiene also plays a role in the prevention of potentially harmful exposures. Students should refrain from eating or drinking while engaged in art projects, and they should wash their hands thoroughly when finished. Another general safety practice is to ensure proper ventilation in the art classroom so that contaminants may be diluted and eventually removed from the air. Exposure to hazardous dusts and fumes will be minimized if the instructor premixes dry materials with water (for example, temperas, wheat paste, and so forth) and fires ceramic products when students are away from the kiln area. If an art material has been transferred to an unlabeled container and its identity is unknown, it should be disposed of. For specific information on the proper disposal of art and craft materials, please contact your local county health department.

Purchasing Safe Products for Grades K-6

In purchasing products for a particular application, alternative or substitute products should always be considered and preference given to the least-toxic product. The following list describes general types of art materials that are likely to be hazardous and suggests substitute products. Although the law does not prohibit the use of all of these materials, it is suggested that they be used with discretion and that substitutes be used whenever possible.

Art and Craft Materials to Avoid and Recommended Substitutes

1. AVOID: Products that may generate an inhalation hazard. Examples include clay in dry form, powdered paints, glazes, pigments, wheat paste, and aerosols (for example, spray paints, fixatives).

   SUBSTITUTE: Wet or liquid non-aerosol products. (If dry products are used, they should be mixed while young children are not present.)

2. AVOID: Hazardous solvent-based products. Examples include rubber cement and its thinner, turpentine and other paint thinners, and solvent-based markers.

   SUBSTITUTE: Water-based glues, paints, and markers.

3. AVOID: Materials that contain lead or other heavy metals. Examples include some paints, glazes, and enamels.

   SUBSTITUTE: Products that do not contain heavy metals.

4. AVOID: Cold water dyes or commercial dyes.

   SUBSTITUTE: Vegetable dyes(onion skins and so forth).

5. AVOID: Instant papier-mâché, which may contain asbestos fibers or lead or other metals from pigments in colored printing inks.

   SUBSTITUTE: Papier-mâché made from black and white newspaper and library or white paste (or flour and water paste).

Some art and craft projects involve processes that are inappropriate for young children. Some examples are airbrushing, enameling, photo developing, and soldering. Instructors are encouraged to avoid projects that would involve these processes.

Purchasing Art and Craft Materials for Grades 7-12

Education Code Article 6, Section 32064 mandates hazard labeling of art and craft materials purchased for grades 7-12. According to this law, art and craft supplies purchased for use in grades 7-12 must bear a label disclosing the presence of hazardous ingredients, the potential health effects, and instructions for the safe of the product. The rationale for labeling assumes that students in grades 7-12 are capable of reading and understanding hazard labels on art products, and once aware of the hazard, they can take the necessary precautions to minimize exposure. Although products bearing "toxic" warning labels (for example, "harmful if swallowed," "use with adequate ventilation," "avoid skin contact') may be purchased for use by older children, it is recommended that exposure to toxic materials be limited as much as possible. When they are used, care should be taken to ensure that the products are used in accordance with the label direction and that all cautions are observed. While not mandated by law, purchasing products that do not contain toxic ingredients or products on the list of "Art and Craft Materials Which Cannot Be Purchased for Use in Kindergarten and Grades One through Six" and "Products Acceptable for use in Grades 7-12" will provide an additional measure of safety in the classroom.

In some instances art and craft materials will not bear hazardous ingredient labels. If a product is not properly labeled, contact the California Department of Health Services, Food and Drug Branch for information as to whether the materials are in compliance with the labeling requirements.

Resources for Obtaining Information on the Toxicity of Products

There are a number of information sources on art and craft hazards and on products and ingredient toxicity. Follow these steps to obtain information on the toxicity of products as well as to increase general knowledge regarding the safe use of art and craft material:

1. Check the list, "Art and Craft Materials Which Cannot Be Purchased for Use in Kindergarten and Grades One Through Six." If the product is included on the list, it presents a chemical health hazard to those using it.

2. For information on the toxicity of chemicals, contact:

Laurie Monserrat or Karen Randles
Office of Environmental Health Hazard Assessment (OEHHA)
California Environmental Protection Agency
Integrated Risk Assessment Branch
1001 I Street, 12th floor
P.O. Box 4010
Sacramento, CA 95812-4010
Telephone: (916) 324-2829

3. Contact the State Department of Education for information regarding updates of the Art Hazards list. The legislation requires periodic updates, and the Department of Education will furnish information about the current status of the updates. The Department of Education cannot deal with issues of toxicity, inclusion or exclusion of products from the list, or interpretation of the field safety guidelines. The basic responsibility of the Department of Education is to print and disseminate the list developed by the Office of Environmental Health Hazard Assessment (OEHHA).

Nancy Carr
California Department of Education
Visual and Performing Arts
1430 N Street, Suite 4309
Sacramento, CA 95814
ncarr@cde.ca.gov
916-445-5669

4. Contact the American Lung Association of California for further information about art hazards. This organization maintains a library of reference books, brochures, and slide or tape programs and also sponsors seminars and workshops for teachers and others interested in art hazards. By contacting the central number in Oakland, individuals can be referred to local American Lung Association offices in their area.

American Lung Association of California
424 Pendleton Way
Oakland, CA 94621
(510) 638-5864 (LUNG)

5. Contact the Art and Craft Materials Institute for information on the toxicity of art materials and their certification program of art materials.

Art and Creative Materials Institute
1280 Main St, 2nd floor
P.O. Box 479
Hanson, MA 02341
Telephone: (781) 293-4100
http://www.acminet.org

6. Check the US Consumer Product Safety Commission to see if the product you are considering has been recalled. http://www.cpsc.gov/

7. Refer to the following publications for general information regarding the safe use of art and craft materials.

PUBLICATIONS

Making Art Safely: Alternative Methods and Materials in Drawing, Painting, Printmaking, Graphic Design, and Photography (1995). Merle Spandorfer, Jack Snyder and Deborah Curtiss.

Poison Palette: Lack of Compliance of Toxic Art Supplies with Federal Law.
Request copies from the California Public Interest Research Group, 46 Shattuck Square, Suite 11, Berkeley, CA 94704; telephone (510) 644-3454 or U.S. Public Interest Research Group, (202) 546-9707, 215 Pennsylvania Ave., SE, Washington, DC 20003. This pamphlet provides an overview of the Labeling of Hazardous Art Materials Act and includes a list of products from 11 manufacturers that were found to be out of compliance.

Qualley, Charles. *Safety in the Art Room*. Worcester, Mass.: Davis Publications, Inc., 1986. A guide to setting up a safe art classroom for various types of projects. This book includes suggestions for a safe classroom and provides information to give students before they embark on an art project.